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Original Lectures.

ON DIABETES MELLITUS.

FOUR LECTURES DELIVERED IN THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF CHICAGO, BY C. E. LANING, M. D., PROFESSOR OF THEORY AND PRACTICE, AND OF CLINICAL MEDICINE.

LECTURE IV.—TREATMENT.*

In the treatment of diabetes there are a number of things to take into consideration outside of the use of drugs. Plenty of good pure air is a powerful adjuvant, and if this is not obtainable, as is too often the case in many of our larger cities, the inhalation of oxygen in conbination with nitrogen-monoxide and atmosphereic air will in many cases be of great advantage to the patient.

If the nature of the disease be considered, it will at once become apparent that anything which will improve the general condition of the nervous system and at the same time assist the liver and lungs in performing that portion of their work which pertains to oxydation will be of decided benefit. Such an agent is oxygen. It is better that the sugar should be mostly oxydized before it reaches the kidneys, indeed the sooner the better for there can be

* Concluded from page 269.

no doubt that the presence of an excess of sugar in the general circulation is injurious to the organism.

The derangement of the circulation of the chylo-poietic viscera which is almost always present, may be much improved by proper systematic exercise. The general state of the patient is also improved, since digestion and assimilation are made more perfect. A very simple method of exercise which at times is of rare benefit, is to have the patient, when able, hang suspended by the hands from a bar or rings overhead sufficiently high to clear the feet, except in women and weak men, when as much of the weight may be held by the feet as is necessary. Let this be repeated from five to twenty times a day, the patients keeping themselves suspended from five seconds to a minute at a time according to their strength. When they loosen their hold overhead let them take half a dozen full inspirations (which they will have a tendency to do) and they have gone through an exercise which, as I said, is often of incalculable advantage to them.

The circulation throughout the entire system is improved, and especially that of the portal system. The amount of oxygen (of such prime importance) is increased, the heart is strengthened and digestion and assimilation improved and thirst lessened.

I have seen all this occur more than once in practice where the patient faithfully carried out instructions. Once or twice a day, or fifty times a day, for two or three days will not produce any decided results, but if persistently followed up every day as directed, there are few diabetics who will not be benefited by it.

But I warn you that you will find great difficulty in getting your patients to follow out systematically any such course you may lay out for them unless it be the taking of drugs; they think drugs can and *must* do all. The anecdote of the patient who went to a celebrated French physician for treatment will apply to many persons you will meet: A young man all broken down through a course of dissipation, called upon a noted physician of the French capitol and

telling him his ills, asked for relief. The doctor, having ascertained what the patient's habits had been, told him he could make a well man of him and therewith laid down a set of hygienic rules to be followed, assuring his patient that if he did so he would soon be entirely cured. The young fellow looked at the *savant* in disgust for a moment and then said, "Any d—d fool would know he'd get well if he did that, but I don't want to do that; I want to do just as I have been doing, and have some medicine to cure me." Too often will you find patients who if they do not say what the young Frenchman did, they think it and act it.

There is no diet which is a specific for a given disease, any more than there is a specific remedy for the same. It is a mistake I am sure too, as soon as one is assured a patient has diabetes to put him upon a cast-iron diabetic diet, so-called. Of course it seems wise to take away these foods which are converted largely into sugar, but this must be done with discretion. Certain fruits and vegetables which contain more or less almost free sugar, or at least elements readily convertible thereinto, are at times of the greatest benefit to the patients. This may be in one or two ways. Thus the functional hepatic derangement may be overcome to some extent by the action of the fruit acids and in this way help to restore the glycogenic function of the liver when it is at fault, as it often is in diabetes.

You will remember that I told you that a lessening or lowering of the alkalinity of the blood almost always aggravated diabetes, causing more sugar to appear in the urine, and that I explained to you how Jaborandi lessened the sugar in the urine by increasing the perspiration and thus eliminating the acid salts of the blood. Now, at first thought it may seem strange for me to recommend the acids of fruits, for even though they may stimulate hepatic action, their secondary effect in the way of lowering the alkalinity of the blood would apparently negative all the good they might otherwise do.

In order that there may be nothing paradoxical in this, let me impress upon your minds that almost all, or indeed

all fruit acids, are converted into alkaline carbonates in the blood. They retain their acid property just long enough to produce their stimulating effect upon the liver, and then enter the blood as carbonates. Bear this fact in mind and it will often help you out in prescribing a diet in diseases, other than the one under consideration.

As you are probably aware, the stereotyped diet for diabetic patients, is meat in some form, and skimmed milk. No doubt as a rule, a milk diet is of great benefit, if not a necessity, but many times it fails to do the good it should, through not being properly administered. There are many patients who if they take from one to three glasses full of milk a day, will complain of its making them "bilious," that is, causing the tongue to be coated, the breath foul, the bowels constipated, and a general feeling of languor and depression. When a patient is so affected, and thinks he cannot take milk, let him have freely from one to two quarts daily, and the symptoms complained of will soon disappear, the bowels will move freely, lessening the strain upon the kidneys and gastric, hepatic and intestinal catarrh will if present be much improved if not entirely removed. I have seen this illustrated time and again, viz.: that patients who could not tolerate milk at all in small quantities, improved wonderfully when put upon almost an exclusive milk diet.

The benefit to be derived from restraining the patient from eating any bread is problematical in some cases, and where there is great craving for it, as often occurs, it is best to let them have a reasonable amount, at least part of the time, as the feeding them to satiety upon some one thing to the exclusion of food greatly desired tends decidedly to lower the general vitality, which we cannot afford to do in either diabetes of Bright's disease.

In order to get the best results from diet, each case must be carefully studied and individualized, just as much so indeed as in selecting a remedy. I have been long in the habit of allowing my diabetic patients a more generous

and varied diet than is usually done by physicians, though carefully noting the effects in each case.

When the various causes of the disease are considered, it does not look rational that one set article of food, be it milk, meat or what not can always be indicated as best. I have made some of my best cures of diabetics in cases where I did not restrict the diet from first to last, except to the extent of not allowing them to overeat, nor to make use of food obviously not good for any one.

There are a number of foods on the market prepared especially for the use of diabetic patients, each one claiming some special merit. Gluten and almond bread are thought to be of benefit in some cases.

It is impossible for one to enter into the details necessary to outline the treatment for individual cases. There is one thing of importance in the treatment of diabetes, however, "I ought to tell you," and that is the imperative necessity of keeping the skin in as healthy a condition as possible. Frequent sponge baths and dry rubbings are of great service. When the stage has arrived wherein the thirst is intense and the skin dry, a bath once a day in tepid water, the patient remaining in the bath from five to fifteen minutes, will often relieve the thirst and lessen the discharge of urine. A teaspoonful of spirits of ammonia added to the water will often be of much benefit, for reasons I shall not stop to give at present.

As you remember, I told you in almost all cases the portal circulation is deranged. When the patient drinks so much water the portal vessels become overcharged and a train of symptoms and evils are the result which are to a great extent avoided when the water or a considerable quantity of it is taken into the system by way of the peripheral venous radicals.

In addition to the remedies indicated, see that your diabetic patients have plenty of good air and water, enough of wholsome food in reasonable variety; if able, a certain amount of light exercise every day; keep the skin healthy by frequent rubbings and baths; keep the extremities

warm, and prevent anything like general chilling of the surfaces as much as possible; and they should avoid all mental labor and worry, especially about their own condition and prospects. I never allow the patient to make use of a urinometer or to test his own urine lest he should worry over it and thus retard his recovery.

TUBERCULOSIS OF THE JOINTS FROM A CLINICAL STANDPOINT. By H. R. CHISLETT, M. D., ADJUNCT PROFESSOR OF SURGERY IN THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF CHICAGO.

It is with the naked eye rather than with the microscope that the surgeon has most frequently to make his examinations and diagnoses, and as the recent literature of tuberculosis is teeming with microscopical appearances, perhaps there are a few physicians left who are old-fashioned enough to agree with me that to be of much practical value to the general practitioner, microscopical researches must be clothed in naked-eye appearances. It is for this reason that the above title has been chosen and such points as are in reality microscopical we shall endeavor to place in so good a light as to render spectacles unnecessary. We shall for the sake of clearness divide our subject into sections and remind the man who knows it all and thinks such division unnecessary, that the paper is written, not for him, but for "the man who knows not and knows he knows not." Let us then take a brief glance at the history of our subject.

History.—While it was not until the discovery of the bacillus of tuberculosis by Koch, in 1882, that the real cause of this disease was known, there were two forms of tuberculosis of bone described by Nelaton as early as 1836, which he named the "Encysted Tubercle," and the Tuberculous Infiltration. It is to Rokitansky, however, that we are indebted for the recognition of primary tubercular degeneration of joints. He stated his belief early in the six-

ties that tubercles developed directly on the synovial membrane, adding that sometimes the joint became involved from a bony focus. German scientists soon took up the subject for investigation, and through the efforts of Küster, who in 1870 described the frequency of miliary tubercles in white swelling, and of König and Volkmann, who followed up Küster experiments, the tuberculosis of joints became a recognized disease a good many years before Koch's discovery.

Ætiology.—In studying a process of this nature there are two factors to be considered: First, the cause; second, the tissues upon which the cause acts. In other words, the predisposition and the exciting cause. The predisposition is a condition of diminished vital energy and may be hereditary or acquired. Volkmann expresses his belief that "Practically, without exception, these cases come from families in which scrofula and tuberculosis are hereditary." Kummer found what is spoken of as a scrofulous habit, a causative element in thirty-seven per cent of his cases. Age, too, is a strongly predisposing cause, children being especially prone to this invasion; the greater activity of development, the greater the liability to disease and, too, children are so liable to injuries. Again at puberty it is thought that people begin to assert their individuality and outgrow inherited tendencies which have not already developed. However this may be, Mr. Wright estimates that eighty-four per cent of all cases of tuberculous joint disease will be found in children under fourteen years of age, and Bradford and Lovett, in an analysis of thirteen hundred cases, assert that one thousand were less than fifteen years old. The acquired predisposition is from malnutrition, whether the result of disease or insufficient or improper food.

The exciting cause of all tuberculous disease is proven beyond question to be the bacillus of Koch. While we cannot take time to describe the inoculation-experiments that prove the facts, perhaps a brief review of the invasion,

localization and development of the infection will be interesting.

Invasion.—When tuberculosis of the bones and joints is called primary it is meant that the disease is practically localized, no other focus of disease being determinable. Kummer states that even in this sense only forty per cent of the cases are primary, the remaining sixty per cent showing evidence of defect in other parts. The direct infection of bones and joints, except as the result of wounds, is practically impossible, so it must be looked upon as a secondary deposit. The most common point of invasion is undoubtedly the lungs, a catarrhal condition of the mucous membrane of the respiratory tract and consequent denudation of the epithelium, rendering the introduction of the microbes very easy. The microbes floating in the atmosphere in the form of pulverized sputa, enter and become localized in the respiratory tract somewhere, or as Gerster has pointed out in the bronchial glands of children. The tendency is to involve those glands in preference to the lungs, and these undergoing caseous degeneration, serves as a distributing point through perforation of the veins or the thoracic duct, which, Weigert accounts the most common method of dissemination. Skin diseases, especially eczema, should be guarded against as points of invasion, though as a rule infection through the skin causes but a localized process at the point of introduction.

Localization.—Bacilli of tuberculosis circulating in the blood will soon become eliminated if the tissues are not in a condition suitable to their development, and of all the causes which diminish vital resistance and so furnish the proper conditions, traumatism ranks highest. Experimentally it has been proven that *slight* traumatism to a joint in a tuberculous subject is much more likely to be followed by tubercular disease than more damaging injuries. That many cases result in patients in whom no tendency can be traced has given rise to the belief that traumatism is the most important causative factor if not the only one. This belief is supported by such names as Sayre, Agnew and

Bauer. That the anatomical arrangement and the physiological activity of parts have greatly to do with localization, is beyond doubt, the terminal branches of arteries being the points at which tuberculous matter is most apt to become arrested. The slow circulation in the spongy tissue of bones, the thin walls of these vessels, their lack of elasticity and infrequent anastomoses render bones especially prone to invasion and localization. This is especially true if the infection is carried along in the form of an embolus. We must not overlook the points either, why the hip and the ankle are more vulnerable points than the knee in childhood, while in adults the reverse is true. You will remember that the nutrient arteries of the lower extremity diverge from the knee; that while ossification of the lower epiphyses of the femur begins in fœtal life, and of the upper not until the first year after birth, their development and final attachment is just reversed, and that the upper epiphysis of the tibia, though showing ossification earlier, does not develop and become attached to the shaft until long after the lower. Physiological activity and hence determination of blood then in children, is more marked at the hip and ankle than at the knee, so that the diseased conditions are more apt to be located at these points. In adults the knee is most frequently invaded for obvious reasons. The shoulder and wrist are less apt to become invaded in children than the elbow, more so in adult life; the determination of blood in the osteogenetic process being toward the elbow in early years.

The question as to whether tuberculosis of the joints is due to primary localization in the bone or in the synovial membrane, was for a long time hotly contested, but the general consensus of opinion now is, that primary osteal tuberculosis occurs two or three times more frequently than primary synovial (Fenger). Volkmann believes that fungous disease begins usually, and in children always, as a localized osteitis, and Müller, from a series of observations estimates the primary focus as follows: In bone, sixty-eight per cent; in synoval membrane, twenty per cent; in-

definite, twelve per cent. On one other point nearly all authors agree. That after the joint is involved the progress and development are the same, and the differentiation is a clinical impossibility. As both processes certainly do occur, and as early recognition is of the utmost importance, we shall describe both, taking first that form which is most common: Tuberculosis of bone. This deposit may appear in two ways : (1) Independent disease of the shaft, preferably near the attachment of the epiphysis, or, (2) by deposit in the epiphysis itself. It is with the latter form we have to deal at present, and no matter in which joint it may appear it is most commonly as an affection of the spongy tissue near the attachment to the shaft, or near the articular cartilage. König describes the gross appearances under three forms: (Fenger)

a. The granulating focus. The first change in this encysted form is a single focus or multiple foci of tubercular degeneration, appearing as ordinary granulation tissue. As the degenerative process extends, the surrounding parts become swollen from the inflammatory process excited by the bacilli. There is an exudation of leucocytes and serum, which becomes converted into granulations. These are invaded by the microbes in every direction, and undergo the cheesy degeneration until the virulence of the germs, diminishing as they extend, the compact granulations are able to resist their further progress. The granulations become more fibrous in their nature, and the contraction cuts off the blood supply to the central portion which undergoes liquefaction, forming what Nelaton described fifty years ago as "Encysted Tubercle of Bone." It is in reality a circumscribed collection of tuberculous pus, small pieces of bone and exuded corpuscles, the wall being formed by compact layers of granulation tissue.

b. Tubercular necrosis. When the original focus is larger, the rapidly forming granulations cut off the blood supply before the bone can either become absorbed or undergo liquefaction, and a sequestrum results. This form is termed 'Necrosis,' on account of the size

of the sequestrum. It is rare that the tubercular sequestrum is large, which is one marked difference between tubercular and acute infectious osteitis. The sequestrum is usually separated from the surrounding structures by a layer of granulation tissue, or by a dry, cheesy matter. At times the feeble granulations are unable to successfully prevent the spreading disease, and an infiltration of the whole epiphysis occurs, giving the spongy tissue a resemblance to the gray substance of the brain. This form is rapidly spreading, and if examined closely, small collections of yellowish pus may be seen scattered here and there. These small spots increase in numbers and enlarge; the diseased area assuming characteristics similar to those of acute infectious osteo-myelitis. In reality it is such, for the tubercular degeneration has become the seat of pyogenic infection, and though up to the last tubercles can be determined in the diseased area, the progress is now one of acute suppuration.

c. The tuberculous infarct. This third variety is usually caused by embolism, the diseased area, invariably cone-shape, representing the distribution of the occluded artery. These infarcts though primarily osteal really involve the joint from the beginning, for the cartilage forming the base of the cone dies with the bone, is detached and drops into the joint and disintegrates.

d. Termination. These bony foci terminate in one of three ways, depending upon the activity of the microbes and the size and location of the original focus:

1. By absorption and cicatrization. This may be partial or complete. If complete, the disease is said to be cured. If partial the cicatrix will contain the spores of the bacilli which may remain dormant for years when a slight injury, causing an inflammatory exudate, forms a suitable soil for their development.

2. By perforation of the periosteum and formation of periarticular abscesses. It is worthy of note that in tubercular disease there is not that tendency to extension periosteal involvement that you see in bone inflammations from

other causes. For this reason the markedly thickened bone is infrequent.

3. By extension into the articulation, the most frequent and the one in which we are at present most interested.

In the granulating focus the cartilage is sometimes sufficient to prevent the joint invasion but as a rule the near approach of the disease is a signal for the gradual local absorption of the cartilage and the formation of an opening, usually round, through which the granulations protrude. We must remember too, that when the bony focus is located near the insertion of the capsule, we may have both joint and periosteum perforated. Lannelongue and Volkmann have proven, the one by autopsies the other by early operation, that for some time prior to the rupture into the articulation, there are signs of synovial inflammation. The membrane becomes thickened, reddened and even fungous; the synovial fluid slightly increased and the cartilage and capsule thickened, softened. This softening whether the result of simple inflammation from continuity of structure or from infective inflammation from transudation of microbes, is the main cause of perforation; for tuberculosis spreads, as other destructive processes do, in the direction at least resistance. Once the joint is involved the destruction goes on more markedly but as the changes are the same from now on as in those cases primarily synovial, let us look at the changes as if they were originally from synovial inflammation.

Synovial tuberculosis. Schüller says that when the causative factor in localization is *slight*, traumatism in people in whom there are bacilli floating in the blood, the result is most commonly synovial involvement. This form is usually a diffused inflammation of the membrane and in its early stages is insufficient to produce the characteristic granulations. The exudations are fibrinous in their nature and coagulating, form the rice bodies which are considered characteristic of tuberculosis. These fibrinous coagula are moulded into round or oval bodies by interarticular pressure. This diffused tubercular synovitis may develop

into a papillomatous form, the membrane becoming covered with little papillæ. These may be either sessile or pedunculated and if detached are one other source of the rice bodies.

The next variety of which we shall speak is the most common :

The Diffused granulating tuberculosis. — The typical tumor albus of old authors. The synovial membranes, the perimembranous structures, become infiltrated and covered with a fungus granulating mass which readily undergoes cheesy degeneration or liquefaction, and formation of tuberculous pus. In order to give the best naked-eye appearances of this form let me describe a case of tuberculosis of the knee joint which it was my good fortune to dissect a few weeks ago, after amputation at the middle third of the thigh.

Case. The invasion of the periarticular tissues had given rise to a considerable swelling in the region of the joint and the atrophy of the muscles being quite marked, showed to good advantage that characteristic spindle shape so often seen in diseases of the knee and elbow joints. The articular infiltration had extended to the subcutaneous tissues and the skin having become stretched and fixed and shiny, gave a typical appearance of Wisemann's white swelling. Upon opening the joint there was a free escape of pus, but the most striking feature was the large mass of grayish granulations filling up the articular space and extending up the anterior surface of the femur and involving the lining membrane of the bursa of the quadriceps. The case was characterized by a soft condition of the granulatious, with a tendency to destructive invasion of all the elements of the joint. In places the articular cartilages of the femur was completely destroyed, the underlying bone extensively diseased. In other parts the granulations seemed to have separated the cartilage from the bone, parts of cartilage being still in the joint cavity partly disintegrated. The erosion of the bone had allowed ready access into the cancellous structure, and the external condyle was undergoing the diffused form of softening for a distance of two inches. The internal condyle was tolerably healthy except at the articulation. The semi-lunar cartilages

were softened and separated from the tibia at their posterior borders. In the center of the external one, or rather at the bottom of it, was an oval opening through which the tibia had become involved, and the chisel soon determined that the involvement was too great to justify excision. The pressure from the considerable accumulation of pus and the destructive action of the granulations on the capsule had caused a local rupture and evacuation into the periarticular tissues. The pus had found its way into the popliteal space and down between the superficial and deep layers of the posterior tibial muscles, involving the connective tissue in a diffused suppurative process.

This case was without a doubt a primary synovial localization which by the way is a more common occurrence in adult life than in childhood. The pus collection usually becomes circumscribed either in the immediate vicinity of the joint involved, or by passing along some connective tissue plane until it meets with a resistance which delays it long enough to excite the formation of an inflammatory wall. If the disease continues, further destruction of articular ligaments, cartilages and bones takes place, and deformity from contracting muscles results, even to complete destruction.

One other variety to which I wish to call attention is described by König as emphysema, and is in reality a cold abscess of the joint. The whole synovial membrane is involved in a miliary tuberculosis, showing little tendency in the early stages to periarticular invasion. Later, when the capsule is weakened and destroyed, there is a formation of large periarticular abscesses. When confined to the synovial membrane the thin layer of granulation tissue can be readily wiped from the membrane, leaving a surface not markedly inflamed or thickened, but thickly covered by miliary tubercles.

Diagnosis.—Frequency is one of the strongest diagnostic features. Indeed, one of our recent authors states "that the surgeon will be consulted for one hundred cases of joint tuberculosis to one of the other class of cases such as septic

gonorrhœal or rheumatic synovitis." While many look upon this statement as a little extravagant, there is no doubt that it is the most frequent form of joint disease. Taking then the frequency, the history of the case, the chronic course, the absence of severe inflammatory symptoms, the practically local nature of the affection—that is freedom from early constitutional involvement—there will be little excuse for confounding it with acute infectious osteomyelitis of the articular surface. Tubercular arthritis, when confined to a single joint, will rarely cause much elevation of temperature. Indeed, Dr. Fenger states that high temperature and rapid spreading are always indicative of mixed infection, the pyogenic microbes entering the system and becoming localized in the tubercular deposits. With the formation of periarticular abscesses there is usually a rise in the temperature, the rupture being announced as a rule by an attack of sharp pain. This temperature rarely runs higher than 101 degrees. König regards such a temperature in the evening, with a normal register in the morning, as diagnostic of this complication. When a periarticular abscess forms and then heals up it may be assumed that the osteal focus is at fault, because those connected with joints do not heal. In the still later stages, after the formation of sinuses, the obstinacy and the protrusion of granulations from the canal will be sufficient.

The persistency and the tendency to return from slight causes or the discovery of rice bodies by aspiration should distinguish between tubercular hydrops and simple synovial inflammation.

The early detection of primary osteal foci is extremely difficult, but as near the joint the neglect may prove so disastrous, great care should be exercised. If one of a lymphatic constitution presents himself to you with a bone slightly swollen, tender to pressure and a slight elevation of temperature; if in addition to these there is a mild stiffness of the nearest joint, getting worse toward night, be on your guard, and if assured or strongly suspicious remember that

under strictest antiseptic measures an exploratory incision is justifiable.

Prognosis. Little need be said about this part of our subject. Though all cases are capable of cure, this end is attended generally by a loss of function, either partial or complete. The extent of destruction, and consequently the prognosis, depends upon one of the following conditions: 1. Power of resistance in the patient. 2. The size of the original focus. 3. Condition when treatment begins. 4. The kind of treatment received. They need no explanation.

Fatal terminations usually result from one of two causes. 1. Sepsis from secondary invasion of pus microbes. It must be remembered that the tissues undergoing tubercular destruction make an excellent culture soil for pyogenic cocci.

2. General tuberculosis. The general infection from the local is quite common. Bilroth estimating that of all deaths from joint disease, 34 per cent are from acute miliary tuberculosis. When occurring after an operation it is termed "operative tuberculosis," and is supposed to result from the pressing into the vessels of some of the diseased tissues. It most commonly begins about a week after the operation, its progress is very rapid, proving fatal in a few weeks when the lungs are the special seat, and in as many days when the meninges are involved.

Treatment. As my paper has already transcended its limits, the remarks on treatment must of necessity be brief.

Efforts at prevention offer little hope of success while people remain ignorant of the value of thoroughly disinfecting the sputa of tuberculous patients. Teaching the people that personal cleanliness, generous diet and plenty of fresh air are the best preventive measures, is as much the surgeon's duty as is the antiseptic treatment of the smallest wounds or abrasions.

The mechanical treatment can be summed up in that one word—*rest.* It would be out of place to attempt a

description of the method of attaining this end now, so I shall simply insert the advice of Mr. Howard Marsh, that "rest should be maintained as a rule for at least three months after all signs of disease have disappeared."

Operative Treatment. The following rules for joint exsection, I take from Gerster, as indicating the requirements of modern antiseptic surgery:

1. Septic infection from without must be excluded by strict adherence to the rules of ascepticism.

2. The removal of all parts soft or osseous that are manifestly diseased.

3. The prevention of further dissemination of the tubercular virus by adequate incisions and the avoidance of forcible manipulation.

4. The preservation of the usefulness of the limb: if anchylosis is aimed at, close apposition of freshened bone surfaces and retention with sutures or nails; where preservation of mobility is desired, sub-periosteal dissection.

5. Passive motions after operation, done without regard to the pain and struggles of the resisting patient, will be, and as a matter of fact, often are carried far beyond the limit of harmlessness. The greater the surgeon's energy, the worse the result, and in many cases anchylosis is brought on by the very measures intended to prevent it.

Clinical Society Transactions.

HOWARD N. LYON, M. D., SECRETARY.

JULY MEETING, 1890.

The Clinical Society met in regular session in Club Room 44 of the Grand Pacific Hotel, Saturday evening, July 26. Second Vice-President Dr. Isadore L. Green, in the chair. The report of the Medical Department of the Bureau of Diseases of Women, Dr. E. S. Bailey, chairman, was read by title and referred to the publishing committee. After the usual routine business was disposed of the society considered two cases reported by Dr. G. E. Clark, of Stillwater, Minn., and Dr. F. R. Waters, of Chicago; after which Dr. W. H. Burt read a paper on "Consumption." Owing to the great length of this paper, its completion was deferred to a special meeting, to be held for this purpose on Saturday evening, August 9.

UTERINE *vs.* VAGINAL CASTS. BY HOWARD N. LYON, M. D., MICROSCOPIST.—*A Report of the Examination of the Specimen Presented by Dr. H. P. Holmes at the June Meeting of the Society.*

After a thorough examination of the specimen submitted to me at the last meeting of this Society I must maintain the opinion which I expressed at that time that it is a cast of the vagina and not of the uterus.

In the examination of false membranes a positive diagnosis is often impossible on account of the absence of cell elements typical of a given locality. In this particular instance the specimen shows in every portion the pavement cells normally belonging to the vagina, and in no place am I

able to find ciliated or columnar cells which should be present in casts of uterine origin.

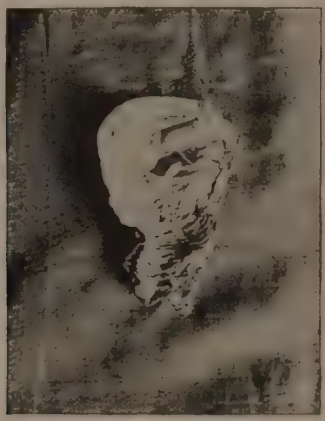
As a brief review of the diagnostic features of uterine and vaginal casts may be of interest to our members, I have arranged the following table.

VAGINAL.	UTERINE.
Pear-shaped.	do
Rugous at small end.	do
Rugæ irregular, transverse and frequently extend from edge to edge.	Rugæ, oblique and run upward and outward from a median line.
Cup like depression in center of large end where it fitted over cervex uteri.	Openings corresponding to positions of Fallopian tubes.
Small end large in proportion to size of body.	Cervical portion small in proportion to size of body.
Anterior and posterior walls in contact.	do
Surface smooth.	Surface rough.
Walls thin and semi-transparent.	Walls thick and opaque.
White color.	Red color.
Composed of coagulated fibrin entangling pavement epithelium and adenoid cells; or the entire surface layer of the vaginal mucous membrane may be exfoliated.	Composed of coagulated fibrin entangling pavement, columnar, ciliated and adenoid cells; or the entire surface layer of the uterine and cervical mucous membrane may be cast off.

The patient would experience about the same degree of suffering and the symptoms would be about the same when the cast had its origin in the vagina as when it was formed in the uterus, but the cause would be different. Previous to the advent of the flow the uterine mucous membrane becomes softened and disintegrates and a cast, if present, becomes loosened and impedes the flow by plugging the cervical canal. No such process occurs in the vagina and a cast formed there remains until a necrosis of its elements

occurs from its having attained such a thickness that it is unable to absorb sufficient nourishment from the cells below. Unless the vaginal irritation is of such severity that the cast is of rapid growth this does not occur and the membrane is forcibly torn away by the pressure of the retained blood. This pressure is increased in either case by spasmodic contractions of the uterus.

This specimen presents on physical examination a regular ovoid shape, the anterior and posterior walls being in contact. It measures 9 cm in length, 7 cm in width at the



CAST OF VAGINA.

widest part, and 4 cm at the narrowest. The walls are thin, very smooth, and of a dirty white color. The rugæ are irregularly arranged in transverse lines across the narrower portion. On one surface, however, they are intersected by a central raphæ. The rugæ are formed by folds of the membrane and may be readily flattened out by slight traction. In no place is there evidence of the membrane having penetrated the mucous follicles, as is common in uterine casts, and to which they owe their shaggy appearance.

A peculiar feature in this specimen is the absence of any marks which would correspond to the openings of the Fallopian tubes or the cervix uteri.

In size this specimen corresponds with the virgin vagina, while if it were from the uterus that organ must be enlarged to a size corresponding to the third month of pregnancy, while the cervical canal must be dilated to the size of a quarter.

If we remember that the vagina is a flattened tube and not a round one, as our various works on anatomy would have us believe; that its anterior and posterior walls are normally in contact with one another; that the vaginal vault has a much greater diameter than the vaginal canal proper; and that in the virgin or nulliparous condition the lower third is provided with transverse rugæ while the surface of the vault is smooth, we can readily understand how a cast of the vagina could closely approximate in form a cast of the uterus.

In the cavity of this membrane, chiefly in the folds of the rugæ, is a small amount of coagulated blood and necrosed cells.

In the absence of the only absolute sign of its origin, the finding of the cast in situ, the balance of the proof lies in favor of its vaginal origin.

These cases are rare, but few having been reported and those not now being accessible, but from a careful study of the vaginal mucous membrane, I am satisfied that these cases are uncommon because unrecognized.*

VOLUNTEER PAPERS.—1. HYDATID CYST OF THE THIGH.—EXCISION—RECOVERY.—BY DR. GEO. F. SHEARS.—*Case.*—Mrs. L., a Swede, 34 years of age, came under my care April 14, 1890, for the treatment of a tumor of the thigh.

Eighteen years ago she first noticed a small tumor near the pubis in the upper and inner portion of the right

*The cut accompanying this paper was furnished by Dr. H. P. Holmes, and represents the cast in the condition in which it was passed. It should have appeared in our last issue, but was not through the engravers' hands in time.

thigh. She knew no cause for its appearance. She had never received an injury in this locality and never had been ill except at the birth of her children.

The tumor increased very slowly until one year ago, at which time it was about the size of a hen's egg.

Fig. 1.

Within the last year, and especially within the last three months, its growth has been very rapid. It has never given pain or inconvenience, except from its size and position. Until within the last three months it was freely movable under the integument. When first seen by me it occupied a position on the inner and upper part of the right thigh, and crowded against the labia and pubic bone. (See fig. No. 1.)

It was firmly adherent to the integument and the sub-integumental tissues. It projected from the thigh about three inches and was hard, tense and immovable.

A diagnosis of fibro-cystic tumor was made and its removal advised. On April 14th I made an incision on the inner surface of the thigh, extending from the pubis to the lower margin of the tumor.

FIG. 2.

After cutting through a thin layer of muscle, I came upon a firm, dense sac made up of many layers and quite adherent to the surrounding muscles.

The sac dipped under the femoral artery. Its upper end was quite firmly united to the pubic bone. Its firm attachment at this point gave it much the appearance of a hernial sac. It was found to contain many smaller cysts, ranging in size from a small marble to that of an egg, and a considerable quantity of a clear, limpid fluid. (See fig.

No. 2.) Upon placing a portion of the sac-wall in the field of the microscope, the hooklets, the unmistakable evidence of hydatids, were found in considerable num-

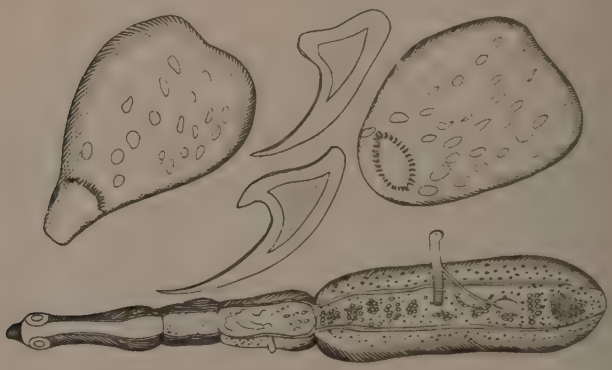


Fig. 3.

bers. (See fig. No. 3. These drawings were made by the aid of the camera lucida by Professor Lyon, and are exact reproductions of the hooklets seen under the microscope.)

The patient made a good recovery. I venture to report this case, not because there was any great difficulty in the operation itself, but because hydatid tumors outside of some internal organ are rare. In a quite an extensive reading I have met with only a few recorded cases and none of these in homœopathic literature. Gross reports one case and the Annual of Medical Science for 1870 another. The first was treated by excision, the latter, which had ulcerated and discharged, by injection of boracid acid 6 per cent and equal parts of water and ox-gall.

It is quite probable that some of the tumors diagnosed as hydatids have not been such; but simply a variety of compound cyst, for in most of them the presence of the parasite, the only positive diagnostic sign, has not been demonstrated. The hydatid mole of pregnancy is a mis-

nomer. It contains no parasite, but is simply a cystic degeneration of the villi of the chorion.

The tumor which I show you here is one stage in the life of a most interesting animal parasite. In its first stage or strobila condition it is the tape-worm of the dog—the tænia echinococcus. It is much smaller than the tape-worm of man—the tænia solium, and consists of a head and three or four segments. (See fig. No. 3). The last segment or proglottis is the only one provided with sexual organs and is the segment in which the ovum is generated. In due time the mature unimpregnated ova escape from the uterus of the proglottis, or the mature proglottis becomes detached and passes out of the intestines with the excrement. The proglottis may then be ruptured and the ovum set free, or the entire segment may be introduced into the stomach of another animal with his food and there, by the action of the gastric juice, the segment may be dissolved and the ovum set free. It is possible that the ova may be inhaled, when in very dry weather these eggs are carried about by the wind. But the penetration into the human organism generally takes place through the digestive organs, by means of imperfectly cleansed vegetables or fruits or by the use of water from well or stream contaminated by dogs.

After spending a longer or shorter time free in the stomach or intestines, the ova develop a number of hooklets and proceed to perforate the walls of these organs by means of an active burrowing motion. Commonly it enters some branch of the portal vein and is carried to the liver, which accounts for the frequency with which hydatids are found in this organ. But the embryo may penetrate the intestinal wall completely and reach the body cavity or be carried to any part of the system. When it has gained a suitable situation it excites, like any other foreign body, a degree of inflammation by which a dense cyst wall is formed. This is the cyst worm, the bladder worm, the larval state of the parasite, the hydatid tumor which I show you here to-day. This tumor consists of an outer

layer, or ectocyst, and a thin, delicate, soft, elastic membrane lining the ectocyst and called the endocyst. The endocyst is filled with a clear, yellowish fluid, and from it are developed the daughter cysts seen in fig. No. 2.

From the endocyst and from the walls of the daughter cysts grow little minute buds or gemmæ. These buds develop into echinococcus heads and are the real embryos of the tænia echinococcus.

(See fig. No. 3. These figures of the echinococcus heads were drawings made by Prof. Lyon, with the aid of the camera lucida—from a portion of the wall of a daughter cyst). They have the anatomical characters of the head of the tape-worm, the double circle of hooklets, and the four rows of suckers placed outside of the hooklets. If these hooklets escape from the cyst by spontaneous rupture of the sac, which often occurs in the liver, and are taken into the stomach of the hog, they rapidly develop into a tape-worm—and thus the cycle is complete.

2. ON THE POWER OF THE SARRACENIA PURPUREA TO ABORT THE SMALL POX.—BY DR. P. BALMOUSSIERES, of Hyeres, France. In May, 1886, there was an epidemic of variola in Robion, a small community in the department of Vaucluse. The disease was first brought thither by a little girl and although the general health had been very good, the epidemic spread with a frightful rapidity. It would have been much more fatal but for the resources of Homœopathy. In all I treated ninety-six persons who were attacked by this disease, of whom thirty-two had never been vaccinated. In twenty-four of the ninety-six cases the disease was of the hæmorrhagic type. Although the largest share of these cases were very severe I lost only twelve of them, of which four were adults and eight were old people and infants.

This epidemic with its terrible mortality, which desolated so many families throughout the country, showed from beginning to end the most violent characteristics with a tendency to become malignant and hæmorrhagic. It was

demonstrated that the proneness to hæmorrhage was not an essential part of the disease, but that when it became malignant and when it occurred in patients whose vitality had been lowered by reason of previous suffering, or exhausted by excesses, it almost always assumed that form. This was what happened throughout the epidemic, which spread everywhere, especially among the working classes who lived in a miserable way, and among infants and old people.

I treated ordinary cases of the disease with sulphur in the sixth centessimal dilution, a dose every four hours. This remedy was very useful not only to bring the eruption to the surface when from any cause it had a disposition to recede, but also to bring it to a fortunate termination. Under its use also the "pitting" was hardly noticeable. Mercurius solubilis calmed the symptoms of the suppurative stage. The largest share of the hæmorrhagic cases were cured with arsenicum alb. 12, rhus tox. 12, and sulphur 6. These three remedies were given in alternation every four hours, and until the hæmorrhagic pustules had disappeared. Then the sulphur only was continued until the cure was completed.

Permit me to call the attention of the members of this society to a plant which I had frequent opportunity to prescribe in the aforesaid epidemic, and which possesses more remarkable virtues than any other remedies in the treatment of variola. I allude to the *Saracenia purpurea*, which grows in North America, and the common name of which is Pitcher Plant, Huntsman's Cup, etc. It has the power to abort the variola, and to cure it in a few days. If it is given during the period of incubation, the disease will not be developed. If it is given when the eruption is fully out, a few doses will cause the papules to become pale, to diminish in size and to disappear so completely that in ten days no trace of them will be left. The following three cases illustrative of this result are chosen from among many others:

Case 1. On May 20, 1886, I was called to prescribe for Miss E. N., aged 18. Her mother had had the variola and

was convalescent from it. The daughter was of a lymphatic nervous temperament and presented the following symptoms: Intense headache, high fever, great thirst, nausea, general aching and pains in the loins, insomnia, anorexia, and a severe itching over the whole body. The menses had returned during the night and were pretty free. It was evidently a case of variola in the state of incubation, and in which the appearance of the eruption was delayed by the coming on of the catamenial flow. I should have given her sulphur, but recognizing her feeble constitution and her weakned power of resistance to this disease, I determined to test the power of sarracenia and therefore gave it in the sixth centessimal dilution, the dose being repeated every four hours.

May 21. The general condition and the symptoms are but slightly modified. If anything the flow of the menses is more free. She complains that she feels a great many shot-like bodies under the skin. Continue the same remedy.

May 22. The headache is less severe, the fever slightly diminished, the nausea has disappeared and the thirst has subsided. The insomnia, however, persists and the itching is still present. The menstrual flow is still copious.

May 23. The headache, as well as the fever, has perceptibly decreased, and the itching is not so bad. The patient has slept a little but in a restless way. No more nausea, nor pains in the loins, the menses are less abundant. Continue the same remedy.

May 24. The headache is insignificant, and all the other symptoms, excepting the fever, are improved.

May 25. She has some appetite, and was given some milk.

May 26. No more headache, still a slight fever, sleeps well, and the itching has left.

May 27. She took a little thin soup and the next day resumed a more liberal diet.

May 30. Two days later there was quite a considerable desquamation of the whole epidermis, which showed the derme, the surface of which was covered with small circular tracings which represented the variolous papules that were arrested and dried up while in the process of evolution.

This case had a remarkable history with respect to the prolonged itching of the desquamation with which it terminated. The eruption was upon the point of appearing when it was interfered with by the menses. The sarrace-

nia checked and cured the disease without difficulty. Without its employment I do not know what would have happened. At all events by thus aborting the disease, it spared the patient much suffering, and protected her from threatening danger as well as from the indelible traces of this disease that are almost always left as its sequel.

Case 2. I was called on the morning of June 5 to Madame B. M., aged 26. She was of a bilious temperament, about three months advanced in pregnancy and presented the following symptoms: A high fever, violent headache, nausea, pain in the lumbar region, thirst and anorexia. Quite a number of papules were seen on the neck, the chest and the abdomen. Owing to her peculiar condition and desire to avoid the tediousness of passing through the different stages of the disease I gave her the sarracenia 6, to be taken every four hours. After I had left, upon learning that she had the variola, she became desperate, was sure she would die, and declared that she would not take the medicine. She finally became so excited that they sent for me in the evening. On a careful examination I found that an abortion had taken place, and what was worse, that the papules which were so apparent in the morning had begun to disappear, the eruption was receding and threatened to destroy the patient.

Here then was an especial need for the sarracenia, for even supposing that sulphur would have brought out the eruption, it was evident that she could not survive the several stages of the disease with her bilio-nervous temperament, and after an abortion. The suppurative period would have been almost necessarily fatal. I therefore continued the same remedy.

June 6. In consequence of the abortion and of the retrocession of the eruption she is very weak. The eruption has entirely disappeared. (In fact it never returned.) The headache is less severe and the fever has abated. The abortion has caused a kind of diversion to the generative organs attended with some degree of deceitful relief, but it is pretty safe to infer that if Sarracenia had not checked the evolution of the morbid process in the very depth of the organism, the termination would have been a very different one, as it was exceedingly doubtful whether the eruption might have been recalled to the surface even with the help of sulpher.

June 7. She has a little more hope, but the headache and the fever have increased somewhat. She is very much

excited and cannot rest, complains of great thirst and of general breaking down. Continue the same remedy.

June 8. The symptoms continue without change.

June 9. The headache and fever are subsiding, the thirst and heat are lessened, but she cannot rest. There seems to be a real struggle between the disease and the remedy, the poor patient's body being the field of battle.

June 10. As soon as she saw me she declared that she felt better. She slept some and all the symptoms are improved. She wanted food and took some milk.

June 11. The improvement continues. There is no longer any headache, very little fever and the sleep is refreshing.

June 12. She feels well, and complains only of weakness. Takes more food.

June 13. Madame B. M. sits up a little in the bed without fatigue.

June 14. She sat up half an hour to have her bed made, and on the 15th I discharged myself pleased that, thanks to the sarracenia, she had recovered.

In conclusion I would say that sulphur is doubtless a very good remedy throughout all the stages of the disease, acting so to speak as a safeguard, but sarracenia is far superior, inasmuch as it seems to suppress the disease.

Case 3. July 1. I was called upon to attend E. B., a boy of 12 at Robion (Vancluse). The boy is of nervous sanguine temperament; he complains of violent headache, the pulse is full and hurried, the temperature is high, in fact I ascertain that the variolic eruption has been in full bloom for the last two days. The boy habitually enjoys perfect health, but as I find out that he has never been vaccinated, and desirous of averting for him the dangers of the suppurative period, I prescribe sarracenia purp. 6 cent drops vi. in 120 grammes of water, one tablespoonful every 4 hours.

July 2. The fever and headache continue. The little patient is restless and thirsty. But the appearance of the eruption has undergone a marked change: the skin and the papules have taken on a pale hue. Same remedy.

July 3. The headache is better, but the fever and the agitation persist; on the other hand the papules grow pale and seem to be sinking. Same remedy.

July 4. The cephalalgia is almost gone, the pulse and the temperature have come down. The little patient has

slept some and is quieter ; there is less thirst. The papules are almost entirely effaced.

July 5. The eruption has disappeared and the skin has resumed its natural appearance. There is some little fever and headache yet.

July 6. The child has slept well and craves food. I put him on a milk diet.

July 7. The improvement continues. The boy is himself again ; he wants to get up and play.

July 8. He feels stronger and is allowed to be out of bed a few hours. A heavier diet is now in order, as the appetite is increasing.

July 10. The child is well and I stop the remedy, under the action of which I have kept him right along.

Now, while this case might not have been fatal, still it cannot be denied that there was considerable danger ahead, if we bear in mind the heavy mortality which prevails among unvaccinated subjects. I therefore consider that sarracenia, by aborting the whole variolic process, renders invaluable service.

From the consideration of the foregoing cases and of many others of a similar nature, it may safely be inferred that the Pitcher-plant not only arrests the variolic virus in its evolution, but also disposes of its external manifestations in a relatively very short time without exposing the organism to any redoubtable crisis or dangerous perturbation of any sort.

My father, Dr. J. B. Balmoussières, of Fournès (Gard.), a pains-taking and zealous follower of Hahnemann, who has been engaged in active practice for over forty years and is still in the field, has used sarracenia in a number of cases where its abortive properties were fully established. He told me that he has been able to jugulate cases that had gone as far as the fourth day of the eruption.

He often told me how, having happened to read in a medical paper that the North-American Indians were in the habit of drinking infusions of the Pitcher-plant as a specific against small-pox, he resolved to test the virtues of the drug, and how efficient he has found it to be. Full many a time did he employ it and he always found it to

work with unerring precision. It was upon his advice that I came to use the drug in the present epidemic and with such a success as to startle the official authorities. I therefore feel bound to thank him publicly for the services he has enabled me to render to scores of sufferers.

There was no doubt whatever in my mind as to the homœopathicity of sarracenia with regard to variola, but I was gratified to find out that Dr. Cigliano, of Naples, Italy, had verified the fact experimentally. (Il Dinamico, 1871.) I now quote from that admirable book of Millspaugh's, "The Medicinal Plants of America:" "Dr. Cigliano, in his experiments, says that the drug produces eruptions similar to *crusta lactea*, and on the forehead and hands papular eruptions, changing to vesicular, with the depression as in small-pox, lasting from seven to eight days.

This sheds sufficient light on the "modus operandi" of the drug, and we must own that the Indians deserve considerable credit for having with the marvelous insight of children of nature hit upon the right remedy, thus practicing homœopathy "unbeknownst to themselves." There is no lack of authority as to the authenticity of the Indian practice. Dr. Herbert Miles, assistant surgeon to the Royal Artillery, Canada, mentions the fact that a plant was known among the Indians that was stated to be specific in small-pox. On the other hand, Mr. F. H. Bignell, in a paper read before the Quebec Geographical Society, bears witness to the beneficial effects of the pitcher plant against the inroads of the plague among the Indians. He says that when the plant is extracted and dried at the proper season, the infusion made will arrest the progress of the disease and prevent the unsightly pitting which so commonly attends it.

But here comes a discordant note: I find it recorded in Millspaugh's work that the Medical Society of Nova Scotia, at a sitting held at Halifax, has adopted a resolution according to which "there are no reliable data upon which to ground any opinion in favor of its use as a remedial agent."

This sweeping decree of the learned body fails to surprise us. God knows upon what facts and experiments they rely; at any rate we know that they must have lacked a truly scientific method of observation in order to arrive at a conclusion utterly at variance with well-observed facts, and the falsity of which every conscientious practitioner can readily find out at the bedside of any variolic patient.

As a clinical conclusion of this brief essay, I would say that Sarrcenia will manifest its abortive faculties fully up to the fourth day of the eruption, and that it can be given with perfect safety as there is no danger of retrocession to be feared under its influence.

It will be found all the more useful, I should rather say necessary, not only in all such cases of variola, as would appear likely from the gravity of the symptoms to threaten a fatal termination, but also in ordinary cases with a view to shorten the sufferings, ward off the dangers, and prevent the unsightly consequences attendant upon this redoubtable affection.*

3. A SIMPLE REMEDY FOR PRURITUS OF THE VULVA. By DR. ANNA C. HARDY.—*Case.*—Mrs. ——, aged 70, a patient in the Old People's Home, had suffered at very frequent intervals for more than twenty years, with an intolerable pruritus of the external genitals, which extended to the anus, the gluteal region and even to the inner surface of the thighs. It first came just after the climacteric and commenced with an intense heat and puffiness of the parts, which would be followed by an itching that drove her almost distracted. The paroxysms usually recurred two or three times a week, but now and then she would escape them for seven or eight days. When they were on nothing would relieve the suffering except to sit down in cold water. After the attack, the skin of the parts, which had been perfectly smooth and without any eruption, would be covered with watery exudation that would soon dry and leave the surface covered with scales that soon dropped off.

* It may perhaps be worth while recording that the first sample of the plant known in Europe was forwarded by Dr. Sarrazin of Quebec, to the famous French botanist, Tournefórt, who gave it its Latin name—Sarracenia.

She had taken all kinds of internal remedies and used all sorts of salves and ointments locally. I first ordered topical applications of the peroxide of hydrogen, one part to twelve of water, but the relief was so slight that I changed it to one part in eight, and finally I told her to use it in the full strength. She did so and the relief was marked and immediate. At first the intervals between the attacks were prolonged, but the paroxysms soon disappeared altogether, and for the last six weeks there has been no return of the difficulty. She says "it's very funny that no other doctor ever thought of this thing, which must be awfully simple, for I pay only fifteen cents to have my bottle filled with it."

4. Fracture of the skull with a spontaneous reduction of the fragments. By Dr. G. E. Clark, of Stillwater, Minn.—*Case.*—June 27th, Etta H., aged twenty months, while playing on a railway track at 6:30 p. m., was struck by a passing engine. The child was thrown some distance and picked up insensible. A physician was called and found a fracture of the frontal bone. He advised trephining, but the operation was not permitted, and the parents decided to drive it in a carriage, ten miles, to their own home. At 12:30 a. m. I found the following symptoms: The child is still unconscious and unable to speak or swallow; the eyes are insensible to light, but the pupils are not markedly dilated; stertorous respiration; convulsions of the left extremities. Inspection showed a V-shaped fracture of the frontal bone in the region of the left frontal eminence; the apex being above and being depressed one-fourth of an inch or more of the upper point, thence raising to a normal position at the base. The parents being still unwilling to permit an operation, more with the idea of doing something even in apparently so hopeless a case, I administered a single powder of a very high potency of arnica. By 3 a. m. the spasms had ceased and did not again return. A high fever raged in the head that night and next day, but then quieted down. On the second day vomiting occurred, which was relieved by a a powder of arsenicum. The bowels remained inactive and speech did not return for ten days.

Two weeks after the accident the child seems perfectly recovered and playing about as usual; and what seems to me worthy of note, not the least indentation of the skull can now be found. That there was a depression of the

bone was clearly shown both by examination and the symptoms presented.

Was it possible for Nature alone or aided by the arnica to restore that bone completely and entirely to its normal position?

DISCUSSION: DR. SKILES—I have just had an interesting case in the same line. Yesterday morning I was called in consultation to a case of labor. It was a face presentation, and when the child was finally delivered, at 7 a. m., the vertex was found to be entirely mashed in. To my surprise, on visiting the patient again at 8:30 p. m, I found that the bones had returned to their normal position.

DR. C. E. LANING: Did the child have any arnica?

DR. SKILES: The child received nothing.

DR. LUDLAM: It had already received *iron*!

DR. C. E. LANING: The superior frontal convolution was involved, for the symptoms show a localized irritation. I am satisfied that the remedy had nothing to do with the return of the bone to its proper position, but that the cure was spontaneous.

DR. E. S. BAILEY: I would suggest that this case be watched for several years, as it is quite probable that the trouble is not yet over. Aside from the immediate effects of compression, there is a secondary effect that sometimes follows where the contusion to the brain tissues has been sufficient to produce effusion and consequent thickening of the tissues about the seat of the injury.

5. SOME MEDICAL USES OF COCAINE HYPODERMICALLY. BY DR. O. W. CARLSON, OF MILWAUKEE, WIS. *Case 1.—Cocaine hypodermically in infantile convulsions.*—I was called in consultation to see a very large fine child of about fifteen months which had had convulsions for forty-eight hours. The spasms were continuous with constant twitching of the limbs, snapping of the eyelids and moving of the eyeballs upward. He was apparently blind, had become insensible, unconscious, and was moaning all the while. The doctor had been with him almost constantly, and had faithfully given him the usual remedies internally, and finally rectal injections of the hydrate of chloral, but without con-

trolling or even modifying the convulsions. The skin was very hot and the temperature, taken in the rectum, was 108° F. A fatal prognosis had been declared, and we confirmed the decision, but determined to do something more to put an end to the convulsions. I advised the use of a solution of cocaine to be given hypodermically, and reasoned that, as I had used a five per cent solution with safety and with good results in adults, a two per cent solution would not hurt this child. Four drops were accordingly injected every twenty minutes for an hour and a-half. The first dose had an evident effect upon the spasmodic action, and in an hour the convulsive movements were entirely under control, and he was quiet.

In two hours the temperature had fallen to 105.5°, and the child could see, was conscious, and took some food willingly. The next morning the doctor telephoned me that the child had passed a comfortable night, seemed very much better and promised to recover. I did not see the case afterward, but was informed that he did well during the following day, but at evening he became worse, was delirious and had evident symptoms of cerebral effusion, from which he died before morning. There was no return of the convulsions. In another case of this kind, where there was no prompt effect from the usual remedies, I certainly would resort to this means of putting an end to the convulsive action at an early stage, before fatal lesions were developed.

Case 2.—Cocaine in the morning sickness of pregnancy.—Having read Dr. W. A. Mirick's report of the good effects of cocaine in the morning sickness of pregnancy,* I determined to give it a trial. I have accordingly used it in two cases that had stubbornly resisted treatment. At first I generally rely upon the indicated homœopathic remedies, but failing with these I have often resorted to the effervescing granulated nitrate of cerium, which is very grateful and very efficacious. In the case of a woman who had married at thirty-seven and became pregnant a year later, the cerium also failed most signally. Her conception had followed the replacement of the uterus after a long-standing and neglected retroversion which, according to Ludlam, where conception is made possible by repositing the organ, is often responsible for this trouble in early pregnancy.

* The CLINIQUE for January, 1890

When she was approaching the fourth month and nothing had relieved her, the vomiting was incessant, she was growing weaker all the time, it seemed as if she must abort or lose her own life, I resorted to the five per cent solution of cocaine, giving ten drops one afternoon and promising to call in twenty-four hours. I did so, but found her out riding. On the third day I found her at home, and she told me that after the first and only injection she had felt very much better. In an hour or so she attempted to rise from the bed but was dizzy and had to lie down again.

The next morning, however, she arose without either vertigo or vomiting, took a little breakfast and retained it. But on going to the table at noon she became nauseated and had to lie down. This continued at intervals, although she went riding, until the third day when I gave her a second injection, but of five drops only. After that she had no further trouble and I did not see her for weeks. On the 4th of July last I delivered her of a healthy girl baby and she convalesced promptly and perfectly.

Case 3.—Cocaine in the ptyalism of pregnancy.—A younger and very fleshy woman who was pregnant for the first time suffered extremely and became rapidly emaciated. She had the worst form of ptyalism with incessant running from the mouth, obliging her to have a spittoon by her bed or couch all the time. She also had a very distressing nausea, but with little vomiting. She was highly scrofulous, and had formerly had some eruption about the anus, under the arms, on the eyelids and on the neck, for which she had received treatment from a physician previous to her marriage. Beside the usual treatment I tried the effect of local cauterization of the uterine cervix with carbolic acid, which old expedient has benefited some of my cases very decidedly, but it did nothing for her. I then gave three hypodermics of five drops each of the five per cent solution of cocaine at intervals of three days, keeping her quietly in bed meanwhile. The relief was direct and complete, and although still very weak, she got up and went about without any further trouble. She was safely delivered of a nice boy on the 16th day of July.

6. CLINICAL OBSERVATIONS BASED ON OVER FOUR HUNDRED ABDOMINAL SECTIONS.—BY DR. R. LUDLAM.* 2. *Of private as compared with public hospitals in the matter of perito-*

* Continued from page 296.

neal surgery.—Granting that in the great majority of cases it is expedient, it is best for the patient, who is about to undergo an operation which requires that the abdomen shall be opened should be taken to a hospital, it will still be a question whether that operation should be made in a general or in a special hospital. And this is a question that physicians in the country as well as in the city, should be prepared to answer intelligently.

When there were no special hospitals for women, and no private hospitals of any sort that were reputable, these patients either had to be taken care of at their own homes, or in a public institution in which all kinds of cases, excepting the eruptive fevers, were treated. There was no alternative. And it is too easily forgotten that the first Woman's Hospital in America (1855) was not established for abdominal work, but for the repair of the vagina and the perineum, and for the more ordinary operations in uterine surgery that were coming into vogue at the time. The animosity and resistance that prevented Baker Brown from making an ovariotomy in St. Mary's hospital, London, drove him with others to establish a small special hospital, the London Home for the Surgical Diseases of Women, in 1858. But it took care of three cases of vesico- and recto-vaginal fistulæ to one of ovarian tumor.*

I am not aware that this state of things has changed in the matter of separating the cases of peritoneal surgery from those which require plastic operations about and within the vagina. If there is a hospital in this country that is wholly and exclusively devoted to intra-abdominal work, I do not know where you would go to find it. Nor is it a reproach to have it so, for nothing is more natural than that these cases should be thrown together and treated under the same roof, by the same or different surgeons.

The point is, however, that when such extra-peritoneal cases are admitted into special hospitals the claim that such hospitals are kept exclusively for the performance of ovariotomy and hysterectomy falls to the ground. And the same is true in a large sense of all those private hospitals in which the common and coarser kinds of surgical work is also done.

Practically, therefore, these special hospitals for women are general hospitals on a smaller scale. The patients are

* A page in the history of Ovariotomy in London, by T. W. Nunn, Consulting surgeon to Middlesex Hospital, London, 1886

grouped because they have some points of clinical resemblance, but their being classified does not give them any special immunity from the ordinary risks to which all patients of whatever sort who are operated upon are exposed. The common enemy of surgical infection threatens them all alike. The seeds of sepsis and of pyæmia coming from a bad wound along the linea alba may be as poisonous and as harmful to another woman who undergoes an abdominal section as if they came from a rotten stump or the puerperal uterus. The truth is that the patient's safety does not depend upon the mere fact that such an operation is made in a woman's hospital, in which there is of necessity a greater or less variety of surgical cases, but upon a compliance with certain conditions that are essential to success, wherever, or by whomsoever it is made.

It is the possibility of meeting these requirements that makes any home, or any hospital, a safe place in which to perform ovariotomy or hysterectomy. And the greater the difficulty of bringing the building and the surroundings into a proper hygienic state, and of keeping them there, the greater the danger in any case of peritoneal section whatever. For the safety of the patient and the success of this kind of work depends, as we have learned from experience, upon a rigid system of surgical cleanliness in every detail of the operation, combined with skill and experience on the part of the operator.

Considering that these conditions are requisite and are of primary importance, the choice between public and private hospitals is, therefore, less important than it was a very few years ago. Nearly all the special hospitals for women in this and foreign countries, hospitals that are devoted to gynecological surgery exclusively, are located in buildings that were formerly occupied as private residences. They have been cleansed, repaired and made as healthy as possible, but, with very few exceptions, they are no better than most of our private houses and all of our newer hospitals would be if they too were kept in a proper sanitary condition and were not overcrowded.

Somebody has said that a clinical teacher is one who is engaged in "looking for the best side of bad facts." We are not searching for anything of the kind when we call attention to the fact that just as good work has been, and is now being done, in abdominal surgery in the general as in the special hospitals. Keith made his best record in the Royal Infirmary of Edinburgh, while Péan in the St. Louis, and

Terrillon in the Salpétriére of Paris, and many others at home and abroad are having the best possible results in the newer and larger hospitals in which all kinds of cases excepting the most pronounced infectious diseases are treated.

It has often been urged that private hospitals are the only suitable places for abdominal surgery because the relative mortality in them is not so great as in the public hospitals. There are two reasons for this statement which has been more largely true in the past than it is at present, or even can be again: (1.) Some of the general hospitals were slow to adopt the modern surgical methods of asepsis and absolute cleanliness, but persisted in working on the old lines and in the old buildings that were infected; and (2) most of the women who are operated upon in private hospitals are of the better class, have taken better care of themselves, and are therefore in better condition, not having allowed the disease to progress until the last moment before the operation was undertaken, while the opposite is true of not a few of the poor, neglected and often abused cases that enter, or are thrust into the larger hospitals.

Briefly then, I am convinced that, with the same class of patients, under the same sanitary conditions, with the same surgical skill and care in operating, and the same good nursing afterward—conditions that under the new *régime* are available almost anywhere, there is no good reason why an ovariotomy or a hysterectomy may not be as safely made in a general as in a special hospital. In the very nature of things abdominal surgery must always remain more or less distinct from that of other parts of the body, but it can be done by responsible specialists in public as well as in private hospitals if only they will keep the surgical commandments.

3. *The choice of an anæsthetic.* Both directly and indirectly this is a matter of great importance. We have first to determine whether the patient can safely be brought under the influence of an anæsthetic and kept there until the close of the operation. Then we must decide between ether and chloroform, or if they shall be given in combination; and finally, what is quite as important, we must select the one that will give the least trouble during the after-treatment.

Fortunately, although as Fenwick has shown the heart-muscle is likely to undergo a structural change in the case of large tumors within the abdomen, it does not very often

happen that such a lesion will interfere with a careful resort to anæsthesia. And yet in old subjects, more especially in those who have once suffered from rheumatism, and where there are cystic tumors involving both ovaries, the greatest caution is necessary. Bearing these facts in mind I have only had two cases of this kind that turned out out badly. One of them was a patient of Dr. T. C. Duncan, of this city, who had had chronic cardiac disease with asthma, and upon whom I operated under protest for the removal of large cysts of both ovaries. Every precaution was taken, I had excellent and experienced assistants and sulphuric ether was carefully given as an anæsthetic. The double operation was made in the usual way and was done quickly, both pedicles were tied securely, the peritoneum was not chilled, not more than two tablespoonfuls of blood were lost, the toilet of the peritoneum was perfect, and I was about to close the wound when, without a struggle or warning of any kind, the heart stopped and it was impossible to resuscitate her. The other case was brought to my clinic by our friend Dr. H. W. Roby, of Topeka, Kansas. This also was a case of chronic cardiac involvement in which it was deemed best to make an exploratory incision in order to settle a question of abdominal diagnosis and, if possible, to prolong her life by an operation. The section was to be made in the hospital before the class to whom I explained the risks of anæsthesia under the circumstances. Because of some old renal mischief it was thought best to give her chloroform instead of ether. This was being very carefully done in the ante-room under the special charge of Dr. Roby and the house physician, when, having taken but two or three whiffs of the anæsthetic, with plenty of atmospheric air, she suddenly became cyanotic and ceased to breathe.

On the side of the kidneys, especially if the tumor is old and malignant, I have encountered more frequent and serious complications. In the case of uterine fibroids that are large, and that through a recurrent peritonitis are firmly anchored, the pressure upon the renal vessels and upon one or both the ureters may give rise to forms of nephritis that greatly increase the risk of anæsthesia by sulphuric ether especially. The rule being that suppurating cysts of the ovary and suppurative peritonitis are associated with suppurative nephritis. I always abstain from giving ether in such cases. In some of these cases also there is a con-

current and perhaps a consequent bronchitis which contra-indicates its employment.

Some years ago, when Dr. Emmett had not yet warned us to test the urine for albumen before making an ovariotomy and to withhold the ether if we found it, I lost one case from the effects of ether in a woman who, I afterward learned, had had albuminuria for at least two years, and another, an old lady, from suffocative catarrh that was greatly and fatally aggravated by the same cause. All the other conditions were favorable to recovery, and in the light of more recent experience, I really believe both of these patients would have gotten well if they had taken chloroform instead of ether. They lived for several days after the operation, but never fully recovered from the effects of the anæsthetic.

In regard to anæsthesia these are the only cases in my whole list that have caused serious trouble. Following the example of the best ovariotomists prior to 1880, I began with using sulphuric ether instead of chloroform. For the first ten years (1872–82) I employed it exclusively, not only in all of my peritoneal sections, but also in all, or nearly all, of my plastic operations, such as perineorrhaphy, colporrhaphy, trachelorrhaphy, etc., etc., in hospital and in private practice. During all that time I was fully persuaded that chloroform was much more dangerous and much more likely to work mischief after the operation than ether; and so I preached and practiced accordingly. Finally, however, through operating so often in my clinic, where time was a more important consideration than the possible after-effects of the anæsthetic, I came to use the chloroform in most of my plastic work, and the result was that I became convinced that my former notions were wrong and untenable.

For the past eight years, in the great majority of cases, I have employed chloroform in preference to ether, and I am satisfied that my results are better. It is more agreeable and rapid in its action, and the patient can more easily and safely be kept in that slighter degree of insensibility, which in abdominal surgery is quite sufficient, once we have gotten through the integument. Its use does away with any special anxiety concerning the condition of the kidneys and of the bronchial tubes, and even where the heart is crippled we can begin with chloroform, make the first incision and then give ether through the remainder of the operation.

(To be continued.)

CORRESPONDENCE.

MILWAUKEE, July 31, 1890.

CHOREA DURING PREGNANCY.

R. LUDLAM, M. D.,

My dear doctor: I have been much interested in the study of the sixth edition of your work on the "Diseases of Women," but I find on page 320 the following statement:

"If chorea begins quite early in the period of gestation it will probably continue until its close; for while the cause remains, the effect must continue, and it will not cease until the gravid uterus has been emptied of its contents."

One of my cases proves to be perhaps an exception to the rule, as you lay it down, and knowing your interest in all such cases, I venture to send you the following notes:

Case. Mrs. S., primipara, nineteen years of age, married two years. During the latter part of May, 1887, having become pregnant, her family became anxious on account of her peculiar habits, her melancholia and nervous twitchings. The family physician, an Eclectic, was called, and attended her during the months of June and July. On August 2d, I was called, and found an unusually severe case of chorea; prescribed for her nearly two months when I was dismissed to give place to the first one called.

There was but little improvement during my two months of service. The doctor called counsel after he had looked the case over and an abortion was at once proposed as the only means of saving her life. This the patient absolutely refused to submit to, and begged that I again be sent for to take charge of the case. Reluctantly consenting, I informed the family that all the chances were decidedly against her recovery, and that in my opinion an abortion would only sooner end her life, as she seemed an object of pity, every muscle in the body seemed to be in motion, stout garments were sewed on her as she could not be kept covered. The power of articulation being entirely gone it was necessary to anticipate her every want. Covered with

bruises over the entire body in spite of all the care given her, such was the case when I again prescribed for her, and in five weeks, or on November 30, I made my last visit, leaving her well to attend her in her confinement Feb. 10, 1888, when she passed through the labor which was normal in every respect. The child is active and bright, but somewhat nervous. Did the remedies employed work the cure, or was the cure spontaneous? The exciting cause of the disease was still there. I am, and always have been in a quandary. Yours very truly, R. MARTIN, M. D.

FINAL EXAMINATION IN OPHTHALMOLOGY AND OTOLOGY, MARCH, 1890, BY PROFESSORS C. H. VILAS AND JOSEPH WATRY.

1. Name the intrinsic muscles of the eye-ball and give their nerve supply.
2. Give all the parts comprised under the terms "external," "middle" and "internal" ear.
3. Give the symptoms which attend all varieties of iritis.
4. Give the local and internal treatment for serous iritis.
5. Describe ophthalmia neonatorum and give the treatment.
6. Describe phlyctenular keratitis and give the treatment.
7. Mention the most frequent causes of vascular keratitis and give its treatment.
8. Give the subjective and objective symptoms of acute catarrhal inflammation of the middle ear.
9. Name the symptoms caused by impacted cerumen and give the treatment for its removal.
10. Give the symptoms of internal ear disease.

Hospital Notes.

DEPARTMENT OF THE EYE AND EAR.

SERVICE OF PROF. C. GURNEE FELLOWS.

Case 1. Simple Acute Blepharitis.—Maggie S., æt. 13, has been suffering for some weeks with a discharge from the eyes; the lids are swollen, red on the edges, glued together in the morning, and covered with scabs and scales. The irritation caused by the discharge had produced a red eruption on the integument at the angles of the eyes and on the lower lid. As is usual, the conjunctiva was somewhat involved in the inflammation. Co-existent with the external trouble she complained of scintillating spots before the eyes, seen especially upon attempting to sew or to do fine work. The patient was instructed to wash the eyes very thoroughly in hot water, removing all crusts, and then to apply thoroughly an ointment of boracic acid, grs. v to ℥j.

The use of the boracic acid lotion and ointment for ten days, changed the appearance very much for the better. The edges of the lids however remained red and the yellow oxide of mercury, grs. v. to vaseline ℥j., used at night completed the cure of the external trouble. Belladonna 3x. internally, removed all subjective phenomena.

Case 2. Chronic Blepharitis and Conjunctivitis.—Mrs. K., æt. 23, has for thirteen years been annoyed by continual redness of the lids, a scabby formation each night, irregular eyelashes which fall out easily. She is easily dazzled by the light and always made worse by wind and dust. Of her own accord she has been wearing mild convex glasses as a protection. Tannic acid, gr. ij. to ℥ss., and yellow oxide ointment, together with frequent washing with hot water, relieved the local trouble. Some benefit was however derived from the cauterization of the lid at the roots of the cilia by the solid nitrate of silver, in a manner soon to be described. Case cured.

Case 3. Chronic Blepharitis, Slight Entropion, Distichiasis.—Miss Mary M., æt. 27, has suffered for ten years with symptoms similar to the cases above. The entropion is due to the scarring following the treatment of trachoma. Epilation with cilia forceps was practiced, and yellow oxide

ointment prescribed with good results, so far as the marginal trouble was concerned. But what has given the most relief, and what is keeping the entropion from causing annoyance, is the cauterization of the lids with the solid stick of nitrate of silver.

Remarks: These three cases, although called by the same name, are still different in character and demand different treatment, depending upon the cause. Each physician has his own experience and observation as to the use of external agents, and although many oculists use cold water, I find almost always in the external eye diseases, that hot water serves the best purpose. I am indebted for these hints about hot water and the use of nitrate of silver, to Galezowski, of Paris, whose great success in the treatment of these external troubles is surely commendable. He advises his patients to take a bowl of water as hot as the lids and skin can bear it, and with a sponge, to dash the water against the closed lids. This may be used for fifteen minutes at a time and be repeated several times during the day.

The use of the silver nitrate, is as follows: After washing and drying the lids, draw the solid stick repeatedly over the integument at the base of the cilia, thus producing a mild cautery effect. It can be at once neutralized by the salt solution. The effect of this procedure is to slightly contract the integument, and draw the cilia outward from the eyeball. This will not cure the higher degrees of entropion, but will often prevent its occurrence, when there is a tendency toward the inturning of the lashes, and may cure the milder cases.

I have also seen the actual cautery used for the same purpose, in the higher degrees of entropion, with a correspondingly good result.

Case 4.—Ophthalmia Neonatorum and its effects. Baby R., æt. 8 weeks. The eyes began to discharge the blenorrhœal matter the fourth day after birth.

Breast milk was used as a wash for them, but nothing else was done, as a physician in attendance advised them

to wait till the discharge had ceased, before consulting an oculist. Consequently, when first seen, the worst of the conjunctival inflammation had passed, but both corneas were opaque, one slightly, and the other very much so.

Nitrate of silver in solution, (gr. v to ℥i,) and atropine were used with a cure of the conjunctival inflammation. The most difficult part to cure still remained, viz.: the corneal opacities. Atropine was continued, and the yellow oxide ointment, with insufflations of calomel: have cleared the one cornea, and very much lessened the greatest opacity. But a capsular cataract has developed, and, in consequence, there naturally follows, convergent strabismus.

The child is still under treatment, and the improvement in the cornea continues. Hepar. and merc. sol. have each been used with good assistance to the local treatment.

Case 5.—Corneal opacity following ophthalmia neonatorum. Baby P., æt 4 months. The history shows that the ophthalmia began the third day after birth. Intermittent treatment was given, with some success, but leaving a central opacity of the left cornea. In four months time under the use of atropine, yellow oxide ointment, daily, and calomel dusted in twice a week, there remains only a faint line of opacity, which I hope will disappear under the same treatment continued. Although the improvement commenced with the use of local means alone, under the administration of merc. sol., internally, the improvement was more rapid.

Case 6.—Ophthalmia neonatorum. Baby X., seen as soon as discharge appeared. Treatment by argentum nitricum, gr. v to ℥i, and frequent washing with bichloride of mercury, 1 to 5000, cured the case in a few days, without any trace of corneal involvement.

Remarks: Here are three cases similar to each other, yet differing in their course and cure.

Ophthalmia neonatorum should be more commonly recognized as a serious affection, and its proper treatment more generally known, especially among midwives and nurses.

The New York board of health is working in the right direction by demanding that all cases shall be reported at once, the same as all other contagious diseases.

Miscellaneous Items.

Prof. Leavitt, the new edition of whose work on Obstetrics is almost ready, has returned from his vacation in Europe.——Prof. Bailey has sent everybody the Thirty-first Annual Catalogue of the "Old Hahnemann, of Chicago," but has a few more left for those who may want them. The prospects for a good large class are extremely flattering. ——The new locations to be noted are: Drs. Alice A. Brab, Romeo, Mich.; H. E. Kinyon, Nashville, Mich.; H. C. Burch, Paxton, Ill.; S. E. Winger, Waynesburg, Pa.; Geo. L. Nicklas, Platteville, Wis.——Dr. Burt's new book, *Consumption and Liquids*, which includes his report to the Clinical Society, will be issued this week by W. T. Keener, 96 Washington street, city.——The Post-Graduate School of New York has had a bequest of $10,000.——Our business manager wishes that a lot of our subscribers would remember the needs of THE CLINIQUE before their wills are made, and act accordingly.——The new issue of Ludlam's Diseases of Women will be ready by Sept. 10.——Two more of our best friends, Dr. Thomas Nichol, of Montreal, and Mrs. Dr. Delia G. Main, formerly Lyman, of Madison, Wis., have passed away.——We regret the fracas in the Cleveland School, but now the old Fellows will know how it feels for themselves to have an unpleasantness in the family.——Prof. Hawkes is on the Atlantic coast; Prof. Watry is at home again; Prof. Shears and wife are having a merited vacation at Scarboro, Me., and Prof. Gee is still in Denver.——The new and beautiful Pennoyer Sanitarium at Kenosha, Wis., will be ready for patients Sept. 1.——Prof. Hoyne reports that Case No. 13,572, recorded at page 276 of this volume, under the same remedy, is entirely free from the eruption.——Two important papers, one entitled "A plea for more complete reports of cases," and the other on "Verifications," are crowded out of this issue.——Students who want good seats in the hospital amphitheatre must come early.——The Winter term opens Sept. 16.——Dr. H. G. Glover, formerly house-physician to Hahnemann Hospital, and who is now connected with Grace Hospital of Detroit, passed through Chicago on his way to Denver.